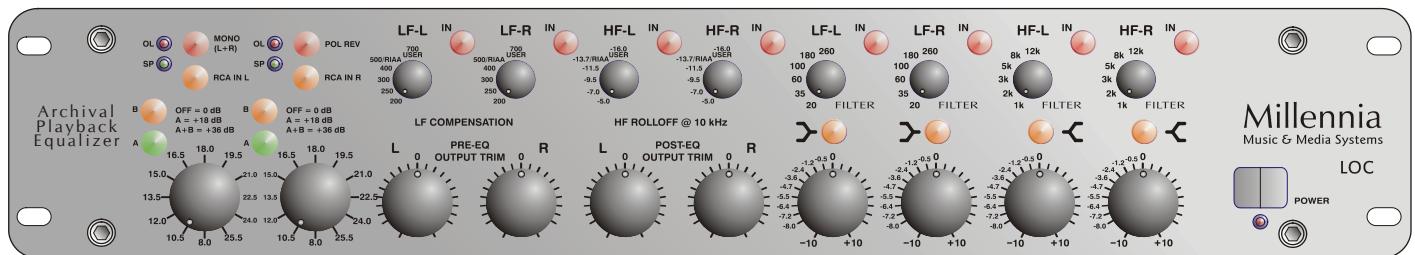


OWNER'S MANUAL



LOC Analog Legacy

Archival Phono Preamplifier

Millennia Music & Media Systems

LOC

Millennia
Media & Music Systems

READ THIS FIRST!

Any changes or modifications not expressly approved by MILLENNIA MEDIA, INC. could void your authority to operate this equipment under the EC or FCC rules.

1. Copyright: You acknowledge that no title to the intellectual property in the LOC is transferred to you.
2. Inspection: Inspect packing box(es), LOC, and cable(s) for damage, unusual marks, or shortages. It is your responsibility to report damage, shortage, or misShipments in a timely manner. Millennia Media and/or its dealers will not be responsible for claims arising from damage in shipping, nor will claims for shortage or misShipments be honored, more than 10 days after ship date.
3. Read this manual carefully and completely before attempting to use the LOC. Improper operation could result in damage to product. It is the user's responsibility to understand the safe use and operation of this device.
4. The shipping box of the LOC system will include (1) Owner's Manual, (2) LOC, (3) a UL approved power cord (Canada and US units only), (4) Owner's Registration Card. Fill out the Owner's Registration Card and return to Millennia Media at your earliest ability.

The material contained in this manual consists of information that is property of Millennia Media, Inc. and is intended solely for use by the purchasers of the equipment described in this manual. Millennia Media, Inc. expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation and/or maintenance of the equipment described in this manual without the express written permission of Millennia Media, Inc.. Under copyright laws, this manual may not be duplicated in whole or in part without the written consent of Millennia Media, Inc..

LOC and *Analog Legacy* are trademarks of Millennia Media, Inc. with all rights reserved. All other trademarks herein are property of their respective holders. Serial numbers are located on the left side of each unit. We suggest that you record the serial numbers in the space provided below. Refer to it whenever you call an authorized Millennia Media repair facility or the manufacturer. Make sure that you return your completed warranty card immediately.

Features and specifications subject to change without notice.

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Serial Nos. _____

Purchase Date _____

Where Purchased _____

SAFETY PRECAUTIONS

For your safety and the safety of others, be sure to read and understand all safety and operational instructions before attempting to use the LOC. **WARNING: The LOC internal circuitry carries lethal voltages.** Carefully observe all warnings, precautions, and instructions on the LOC and as described in the instructions supplied with the unit.

1. WATER, MOISTURE, AND SPILLAGE

Do not attempt to use the LOC in, near, or around water or in unusually moist environments, such as near a sink or swimming pool. Prevent liquids or any other materials or objects from spilling or falling into the LOC unit.

2. HEAT AND VENTILATION

Be sure to allow adequate ventilation to LOC and avoid using or installing unit in close proximity to heat sources, such as heaters, stoves, radiators, power amplifiers, spotlights, or other heat-producing appliances or equipment.

3. POWER SOURCES AND POWER CORD PROTECTION

The LOC Power Supply should be connected to a power source only of the type described in the operating instructions or as marked on the Power Supply. Route the power cord so that it is not likely to be walked on or pinched by having objects placed on it. Pay particular attention to plugs, receptacles, and the point where the AC power cord exits the LOC.

4. GROUNDING

For your safety, it is extremely important that the grounding pin of the 3-wire power cable (included with unit) be inserted into a grounding type 3-pin power outlet. If you are unable to insert the plug into an existing outlet, contact an electrician to install a properly grounded 3-pin power outlet, preferably that with OFI protection, if available.

5. DAMAGE REQUIRING SERVICE

This unit should be repaired or serviced by qualified personnel whenever:

- The AC power cord has been damaged, or
- An audio cable has been damaged, or
- Objects have fallen or liquid has spilled into any LOC unit, or
- The unit does not function properly or exhibits a marked change in performance, or
- The unit has been abused, dropped, or damaged, or
- The unit has been exposed to rain or moisture

6. SERVICING

Deadly voltages are found inside the LOC chassis. The user should not attempt to repair or service this unit. All servicing and/or repairs should be referred to Millennia Media.

If, after reading all instructions, precautions, and warnings, you have remaining questions, please contact Millennia Media directly before attempting to use your LOC. Retain this owner's manual as a record of your purchase to aid positive identification in the event of loss.

QUICK START

READ THIS!! For your protection, never under any circumstances remove the top cover. Refer to a qualified electronics technician any and all servicing and other operations which require the top cover to be removed.

Congratulations on your purchase of the Millennia Media LOC Analog Legacy archive reference system. The LOC is the culmination of meticulous listening tests on innumerable circuit, topology, and packaging designs over many years of product design and development. Your LOC is a finely tuned instrument intended for critical professional applications — we feel it offers the world's most sonically invisible and versatile phonographic front-end.

Before connecting power to the LOC, assure that the rear panel voltage selection fuse block switch is set correctly. In the USA and Canada, the LOC is shipped with the voltage selection block set to 100-120 VAC. If you change the voltage selection block to 200-240 VAC usage, be sure to change both fuses to the correct types. See "Rear Panel" instructions for proper fuse requirements.

The LOC enclosure measures approximately 19" wide x 3.5" high x 15" deep and is designed for mounting into a standard 2U, 19" equipment rack. If the LOC is mounted in a road case or other rack which is prone to strong vibration or shock, it is highly recommended that the rear of the LOC be supported or otherwise reinforced to withstand such conditions. The LOC Analog Legacy runs warm and should be mounted with at least one rack screw space open above and below the unit.

The LOC is designed on a common ground topology. For high quality operation, and for your own safety and the safety of others, *do not defeat* the purpose of the AC plug earth grounding pin.

INTRODUCTION

The LOC Analog Legacy is a hand-crafted collection of Millennia's essential preamplifier and equalizer circuitry tailored specifically for the needs of archiving and mastering professionals, and serious audiophiles requiring a sonically uncompromised analog front-end. The LOC is a selectable mono or stereo processing chain which can be used with virtually any modern or legacy phonograph cartridge. Any known type of legacy record pressing (78, 45, 33, etc.) can be compensated perfectly with the LOC, including vertical groove processes.

When the LOC does not offer a precise preset compensation point or loading characteristic, the user may define virtually any custom parameter via plug-in passive components. The LOC offers a discrete-hybrid signal path from input to output, employing both bipolar and field-effect transistors where they are best applied for Millennia's hallmark sonic invisibility and dynamic uniformity. The LOC accepts balanced line level or phono level input via gold XLR connectors. Outputs are both XLR and RCA phono. Mains powering is worldwide, universal.

LOC REAR PANEL

(1) Inputs:

Bal Phono Input 1 Conventional 3-pin female XLR input connectors for use with differential-balanced phono cartridges. Can also be used with certain line-level sources. Standard input load resistance is 47,000 ohms. This resistance (R1 and R2 on each phono preamp PCB) can be changed by the user to facilitate different phono cartridge load requirements. See phono preamp PCB illustration on page 11. Standard input load capacitance is 470 pF. This capacitance (C1 on each phono preamp PCB) can be changed by the user if necessary, but should not be lower than 270pF. XLR pin 2 is positive polarity. XLR pin 3 is negative polarity. Connector contacts are Neutrik gold plated. It is suggested that XLR cable connectors used with the LOC employ identical plating.

Bal Phono Input 2, Conventional 3-pin female XLR input connectors for use with all standard phono cartridges. Can also be used with certain line-level sources. Inputs 2 and 3 connect to an input transformer.

Unbal Phono In 3 Unbalanced RCA input. To use the RCA input connections, select "RCA IN" on the front panel. Use your cartridge manufacturers recommended R/C loading. The cartridge loading can be modified by changing resistors R2 and R4 and capacitors C1 and C2 on the Input Transformer PCB. See illustration on page 13. J3 and J6 are normally open. If you are only using this unbalanced in, you can jumper it if necessary for hum problems.

(2) Phono Pre Dir Out

Buffered Direct output from the pre amp card. Post polarity and mono switching. This is the same signal fed into the compensation and filter circuits.

(3) Phono Pre Trim Out

Adjustable, buffered signal derived from the Direct out.

(4) Unbal EQ Out Pre Trim

Post filter and compensation circuit unbalanced signal. Available in both RCA and XLR connections. Output RCA connections are independent of input switching.

(5) Bal EQ Out Post Trim

Balanced output from the compensation and filter circuits.

(6) Earth/audio Ground Jumper Strap

A barrier terminal which ties earth ground to audio ground. If ground "hum" loops are experienced when using the LOC, removing this jumper may help. Using this jumper to lift ground, the integrity of the chassis/earth safety ground connection is never compromised.

(7) AC Voltage Mains Selection "100-120" or "200-240"

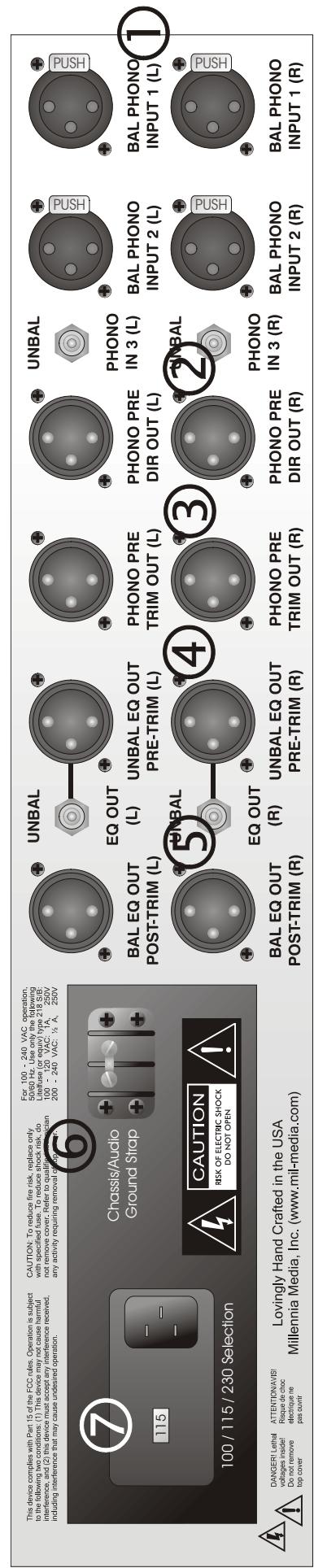
A power entry module with a removable fuse holder block. This fuse holder block is selectable for 100 - 120 Volt or 200 - 240 Volt worldwide mains powering. The fuse block contains two fuses one fuse is in series with the hot power line while the other fuse is in series with the neutral power line. Both fuses must be installed. To change the mains voltage selection, remove IEC power connector and assure that the LOC is not connected to mains power. With a non-conductive tool, gently pry the fuse block away from the power entry module. Remove the two fuses and replace both with type as shown below. Slide out the internal PC Board, turn it over, and reinsert the PCB so that the desired AC mains voltage appears in the viewing window. Double check that the fuses installed correspond to the AC mains voltage range which appears in the viewing window. Gently push the fuse block back until flush and snug.

FUSES:

For 100-120 VAC mains, use two 5 x 20 mm, 1A, slow blow, 250 V, Littelfuse 218 or equiv.

For 200-240 VAC mains, use two 5 x 20 mm, 500 mA, slow blow, 250 V, Littelfuse 218 or equiv.

Use only the power cord provided with the LOC unit or equivalent U/L approved type SV, SVT, SJ, or SJT AC power supply cord. Do not defeat the third pin earth ground. If ground lifting is desired, remove the Earth/Audio Ground Jumper Strap (topic #6, above).



LOC FRONT PANEL

(1) MONO SELECT SWITCH "MONO (L+R)"

Pushbutton switch (German ITT) which combines left and right inputs into a summed mono signal. When this switch is depressed and illuminated, left and right input signals are combined into a single mono signal on both left and right compensation and filter paths.

(2) POLARITY REVERSE SWITCH "POL REV"

Pushbutton switch (German ITT) which, when depressed and illuminated, reverses the polarity (180 degree inversion) of the right channel input signal. Use with vertical groove recordings or stereo sources which are in reversed polarity relative to each other.

(3) RCA Input Select Pushbutton Switches (L&R)

Push in to select the rear panel RCA input jacks.

(4) SIGNAL PRESENT & OVERLOAD INDICATORS "SP" & "OL"

Green and Yellow LEDs (light emitting diodes) which show signal activity (green) and high-level (yellow). The green Signal Present LED illuminates with an audio signal level of approximately -50 dBu, and should illuminate with any normal phono input signal. The yellow high-level LED illuminates with an audio signal level of approximately +20 dBu and should only illuminate on the very highest peak levels.

(5) HIGH RESOLUTION PHONO GAIN CONTROL

Detented, 36-position gain control employing a Grayhill mil-spec gold plated rotary switch. Switch gain is approximately 1.5 dB per step and is inter-channel matched to better than 0.08 dB at all settings. After a brief warm-up period, adjustment of this switch is virtually silent. Two illuminating pushbutton switches ("A" = Green and "B" = Amber) determine the gain "range" of the rotary switch. When the pushbutton switches are not depressed and non-illuminated, the phono preamplifier gain is as printed on the front panel (9.0 dB, 10.5 dB, 12.0 dB, etc..). When the green "A" pushbutton switch (only) is depressed and illuminated, add 18 dB to the gain settings as printed on the front panel. When the green "A" and amber "B" switches are both depressed and illuminated, add 36 dB to the gain settings as printed on the front panel. For example, with both pushbutton switches depressed and the rotary switch at 1:00 o'clock position, the preamp gain would be 55.5dB (19.5 + 36). Maximum gain can be customized up to 90 dB if required. Contact factory for more information

(6) Pre Eq Output Trim

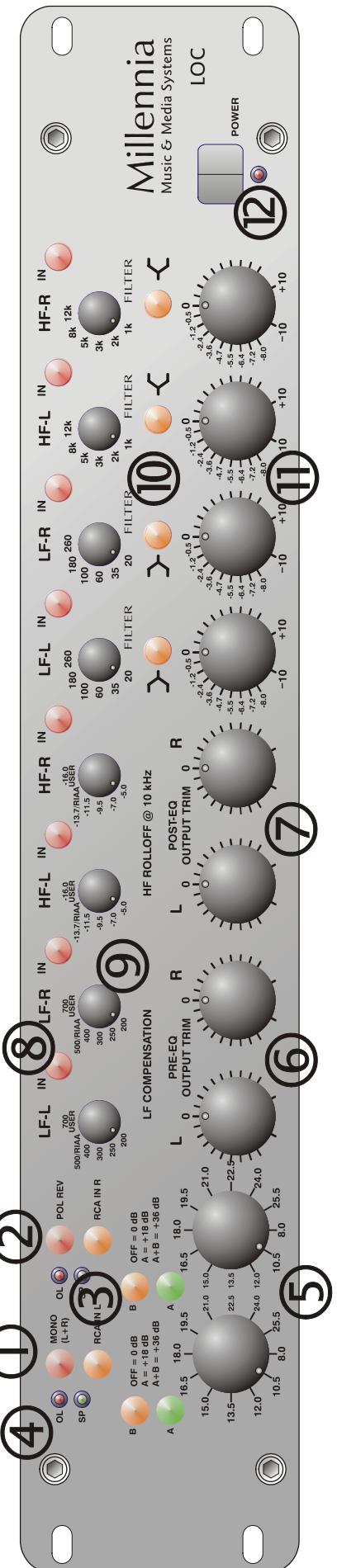
Variable output from the input to the filter and compensation circuits. A setting of '0' is unity gain. This is post preamp/switching circuits, pre compensation/filter circuits.

(7) Post EQ Output Trim

Variable balanced output post compensation/filter circuits. A setting of '0' is unity gain.

LOC

LOC



LOC FRONT PANEL

(8) BAND IN/OUT SWITCH "IN"

Pushbutton switch which places its associated EQ band in circuit or out of circuit. There are eight bands of equalization on the LOC Analog Legacy. Four bands provide precise phono compensation, including RIAA and an unlimited number of legacy curves. Four additional bands (marked "FILTER") provide additional sculpting and repair tools. An EQ band is in-circuit when its associated band switch is depressed and LED is illuminated. Band In/Out switches are provided both for comparing a single EQ band setting versus flat-band response, and for bypassing any band entirely, such as with flat acoustic recordings.

(9) FREQUENCY SELECT ROTARY SWITCH

Six position rotary switch (Grayhill, gold contacts, military spec) which selects fixed high and low band frequency points. LF compensation frequencies are preset to 200, 250, 300, 400, 500/RIAA, and 700/USER (in Hz). HF compensation frequencies are preset at 10 kHz to -5.0, -7.0, -9.5, -11.5, -13.7/RIAA, and -16.0/USER (in dB). Where a switch is marked "USER", the user may change the value of a fixed capacitor to allow for virtually any compensation frequencies not preset on the factory stock rotary switch points. See printed circuit board diagram on page 12 for capacitor socket location (C14 on LF board and C8 on HF board).

The LOC compensation and filter circuits are based upon a unique shunt topology. This topology is unlike conventional "state variable" filters in that *only one* signal path amplifier is employed. Compare this with conventional filter designs employing upwards of four to seven signal path amplifiers. Fewer amplifiers means greatly improved sonic integrity.

LF filter points are preset to 20, 35, 60, 100, 180, and 260 Hertz. High frequency filter points are preset to 1, 2, 3, 5, 8, and 12 kHz.

(10) PEAK/SHELF SELECT SWITCH

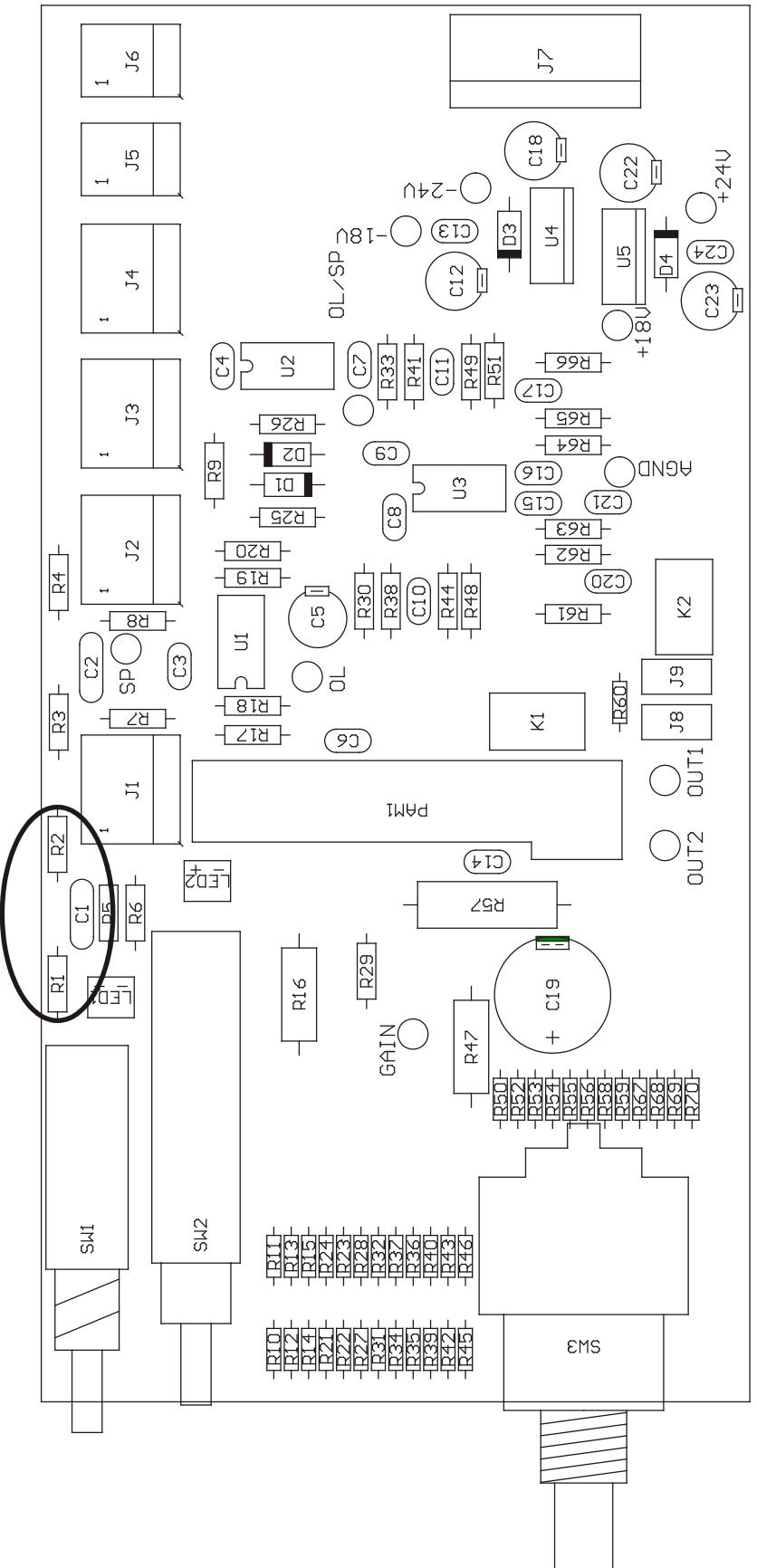
Pushbutton switch which selects LF and HF filter curve shape. When switch is depressed and LED is illuminated, EQ is shelving at 6 dB per octave. When switch is not depressed, EQ is peaking with a fixed "Q" of 1.0 about the center frequency selected.

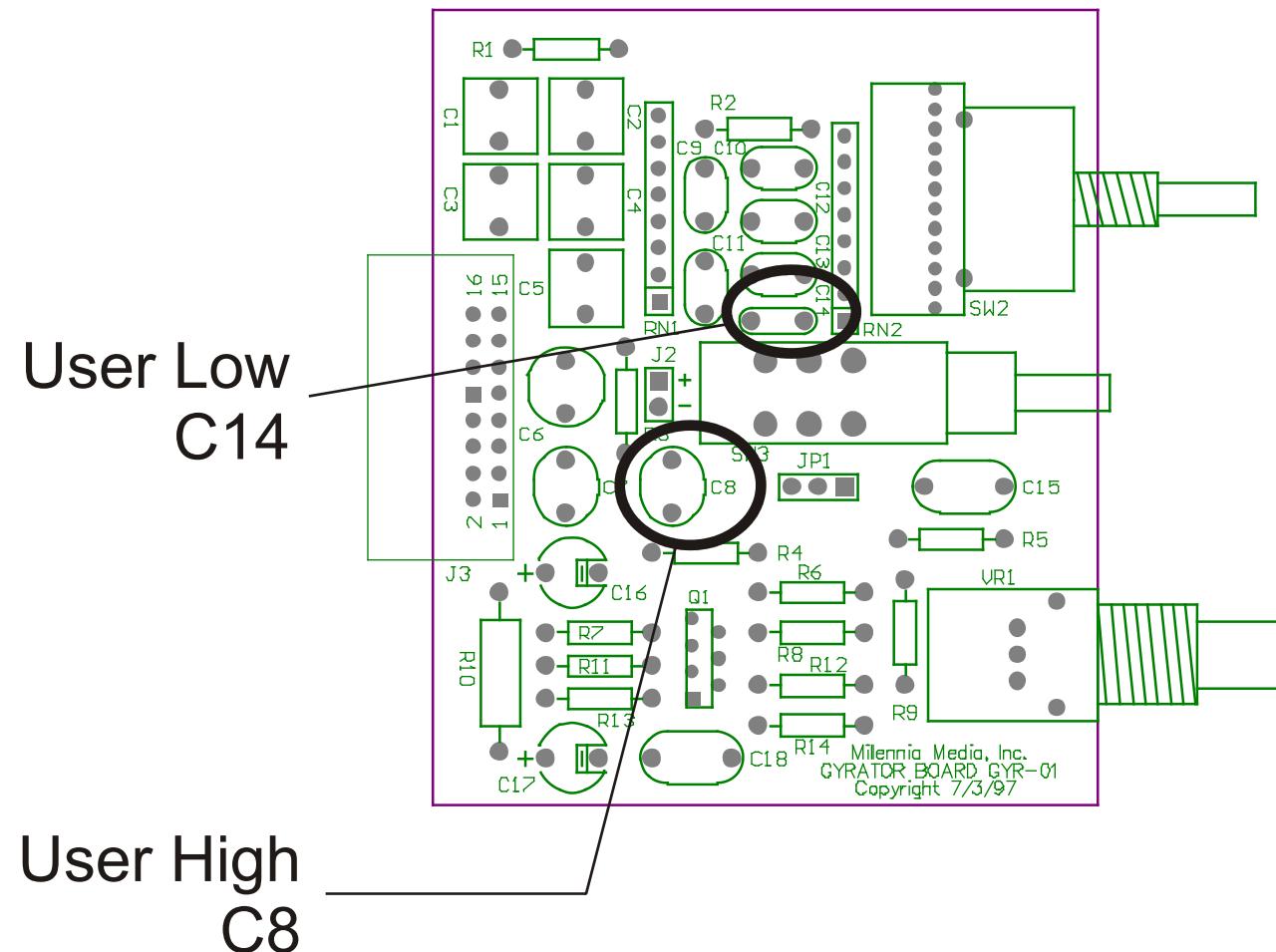
(11) BOOST/CUT CONTROL

Four conductive plastic rotary potentiometers (French Vishay) offering up to +10 dB of boost and -10 dB of cut. Boost/Cut potentiometer has 21 detented positions for accurate repeatability and session logging.

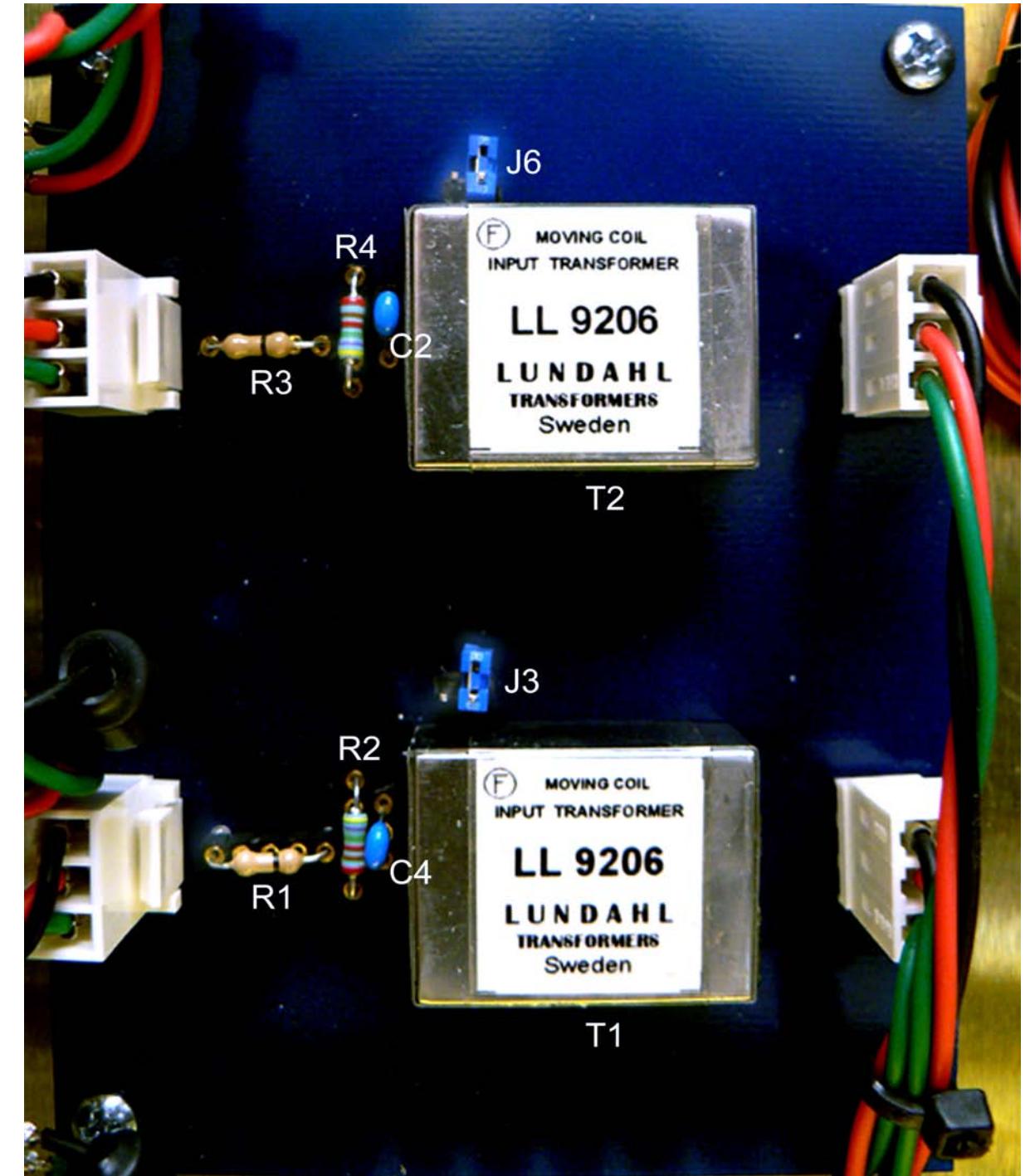
(12) POWER SWITCH "POWER"

Rocker switch for switching AC line power on and off.





LOC Compensation — User Selectable Components



Input Transformer Board

LEGACY RECORDINGS

The 78 RPM record was a standard format for decades, followed by 33-1/3 RPM. While 33 RPM "LP" records produced after 1954 almost universally follow the EMI or RIAA standards, compensation curves used for 78 RPM records varied significantly between manufacturers and era. Via historical research and empirical testing, audio engineers have attempted to classify the myriad of legacy equalization formats. The following chart lists a small sampling of various EQ curves which have been derived from papers, audio journals, jacket information on early LPs, experimentation, and other sources for records made generally between 1925 and 1955. The audio engineer should use these numbers as a guide only. Ultimately, use your ears as the final reference for correct compensation on legacy formats.

| SOURCE | SERIES | TURNOVER (Hz) | ROLLOFF (dB @ 10 kHz) |
|---|-----------------------|----------------------------------|-----------------------|
| Acoustic Recording (such as cylinders, etc..) | | 0 (or as required) | 0 (or as required) |
| "AES" | standard | 400 | -12 |
| AFRS Transcriptions | | 500 | 0 or -5 |
| Allegro | | 750 | -16 |
| Allied | | 500 | -16 |
| American Recording Society | | 500 | -12 or -13.7 |
| Angel | | 500 | -12 |
| Arizona | | 400 | -12 |
| Artist | | 500 | -16 |
| Atlantic | | 500 | -16 |
| Audiophile | | 300 | -8 |
| BBC Transcriptions | 1949 | 500 | -5 |
| BBC Transcriptions | most | 250-300 | 0 to -5 |
| Bach Guild | 501-529 | 500-750 | -16 |
| Banner | adjust as required | 500 | -16 |
| Bartok | | 629 | -16 |
| Bartok | 301-304, 309, 906-920 | 700 | -16 |
| Berliner | speed = 71.29 RPM | 0 | 0 |
| Blue Bird | | 800 | -10 |
| Blue Note Jazz | | 400 | -12 |
| Boston | | COL* | -16 |
| Brunswick | rare | 1000 | -8.5 |
| Brunswick | from 1946 | 300 | -16 |
| Brunswick | early | 300-500 | 0 or -16 |
| BSI | | 353 | -10.5 |
| Caedmon | | 629 | -11 |
| Caedmon | 1001-1022 | 700 | -12 |
| Cameo | | inconsistent, adjust as required | |
| Canyon | | 400 | -12 |
| Capitol | FDS | 400 | -12 |
| Capitol-Telefunken | | 500 | 0 |
| Capitol | | 500 | -12 |

| SOURCE | SERIES | TURNOVER (Hz) | ROLLOFF (dB @ 10 kHz) |
|---------------------|----------------------|---------------|-----------------------|
| Cetra Soria | | 400 | -12 or -16 |
| Cetra | | 400 | -11 |
| Colosseum | | 400 | -12 |
| Columbia* | 1925 | 200 | -7 |
| | 1926 | 250 | -5 |
| | 1938-most | 300 | -16 |
| | various | COL* | -16 |
| | European | 300 | -5 |
| Concert Hall | | 400 | -12 |
| Contemporary | | 400 | -11 |
| Cook Laboratories | | 500 | -11 |
| Cook Laboratories | binaural inside band | 500 | 0 |
| Coral | | 400 or 750 | -12 or -16 |
| Decca | early | 150 or 300 | 0 or -6 |
| | 1946- | 400 or 500 | -12 |
| Decca FFRR | 1949 | 250 | -5 |
| Decca FFRR | 1951 | 300 | -14 |
| Deutsch-Grammophone | | 300 | -5 |
| Dial | | 500 or 750 | -16 |
| Disc | | 300 | -16 |
| Ducretet-Thomson | | 450 | -11 |
| EMI | 1931 | 250 | 0 |
| | 33LP | 500 | -12 |
| EMS | | 375 | -12 |
| Edison | | 0 | 0 |
| Electrola | | 800 | -10 |
| Elektra | | 629 | -16 |
| Epic | thru 1954 | COL* or 750 | -16 |
| Esoteric | | 400 or 500 | -12 |
| European | | 280 | 0 |
| Festival | | 750 | -16 |
| Folkways | | 629 | -16 |
| Good Time Jazz | | 400 | -12 |
| Gramophone | | 300 | -10 |
| HMV | 1925-1946 | 250 | 0 |
| HMV | 1946 | 400 | -10 |
| HMV | 1946-1954 | 500 or 800 | -16 |
| HMV | american | 400 | -12 |
| Handel Society | | 750 | -16 or -17 |
| Haydn Society | | 750 | -16 or -17 |
| Harmony Acoustics | thru 8/29 | 300 | -16 |
| Hit of the Week | | 500 | -5 |
| Kapp | | 700 | -16 |
| Kendall | | 629 | -16 |
| King | | 500 | -16 |
| Linguaphone | | 300 | 0 |
| L'Oiseau-Lyre | | 500 | -10 |
| London | early | 300 | 0 |

| SOURCE | SERIES | TURNOVER (Hz) | ROLLOFF (dB @ 10 kHz) |
|------------------------------|----------------------------------|---------------|-----------------------|
| London | up to LL846 | 500 or 750 | -10.5 |
| London FFRR | 1949- | 250 or 280 | -5 |
| Lyrichord | early | 400 or COL* | -16 |
| | newer | 629 | -16 |
| Mercury | thru 10/54 | 400 | -12 |
| MGM | | 500 | 0 or -12 |
| Montilla | | 500 | -12 |
| Musicraft | | 750 | -14 |
| "NAB" | standard | 500 | -16 |
| New Records | | 750 | -16 |
| Nocturne | | 400 | -12 |
| Oceanic | | COL* or 750 | -16 |
| Odeon | early electricals | 700 | 0 |
| Odeon | pre-1947 | 300 | -8.5 |
| Oiseau-Lyre | thru 1954 | COL* | -8.5 |
| Okeh | electricals | 300 | 0 or -8.5 |
| Oriole | inconsistent, adjust as required | | |
| Orthoacoustic Transcriptions | | 500 | -16 |
| Overtone | | 400 or 500 | -16 |
| Oxford | | 750 | -16 |
| Pacific Jazz | | 400 | -12 |
| Parlophone | varies with era | 300 or 500 | 0 or -8.5 |
| Pathe | inconsistent, adjust as required | | |
| Period | | 500 | -16 |
| Polydor | | 300 | -8.5 |
| Philharmonia | | 400 | -12 |
| Polymusic | | 500 | -16 |
| Polymusic | binaural inside band | 500 | 0 |
| RCA Victor | early acoustics 71.29 RPM | 0 | 0 |
| | later acoustics 76.59 RPM | 0 | 0 |
| | 1925 78 RPM | 250 or 300 | 0 or -5 |
| | 1931 LP only | 700 or 800 | 0 to -10.5 |
| | 1933 | 375 | -8.5 |
| | 1935 | 300 or 500 | 0 |
| | 1938 | 500 | -5 |
| | 1938 – 1948 | 500 | 0 to -12 |
| | 1948 | 500 | -10.5 |
| | 1949- | 500 | -12 or -13 |
| Rachmoninoff Society | | 750 | -16 |
| Radiofunkens | | 400 | 0 |
| Remington | | 500 | -16 |
| Renaissance | | 750 | -12 |
| "RIAA" | standard | 500 | -13.7 |
| Riverside | | 400 | -12 |
| Romeo | inconsistent, adjust as required | | |
| Schirmer | | 1000 | -24 |
| Stradivari | | 750 | -16 |
| Supraphone | | 400 | 0 |

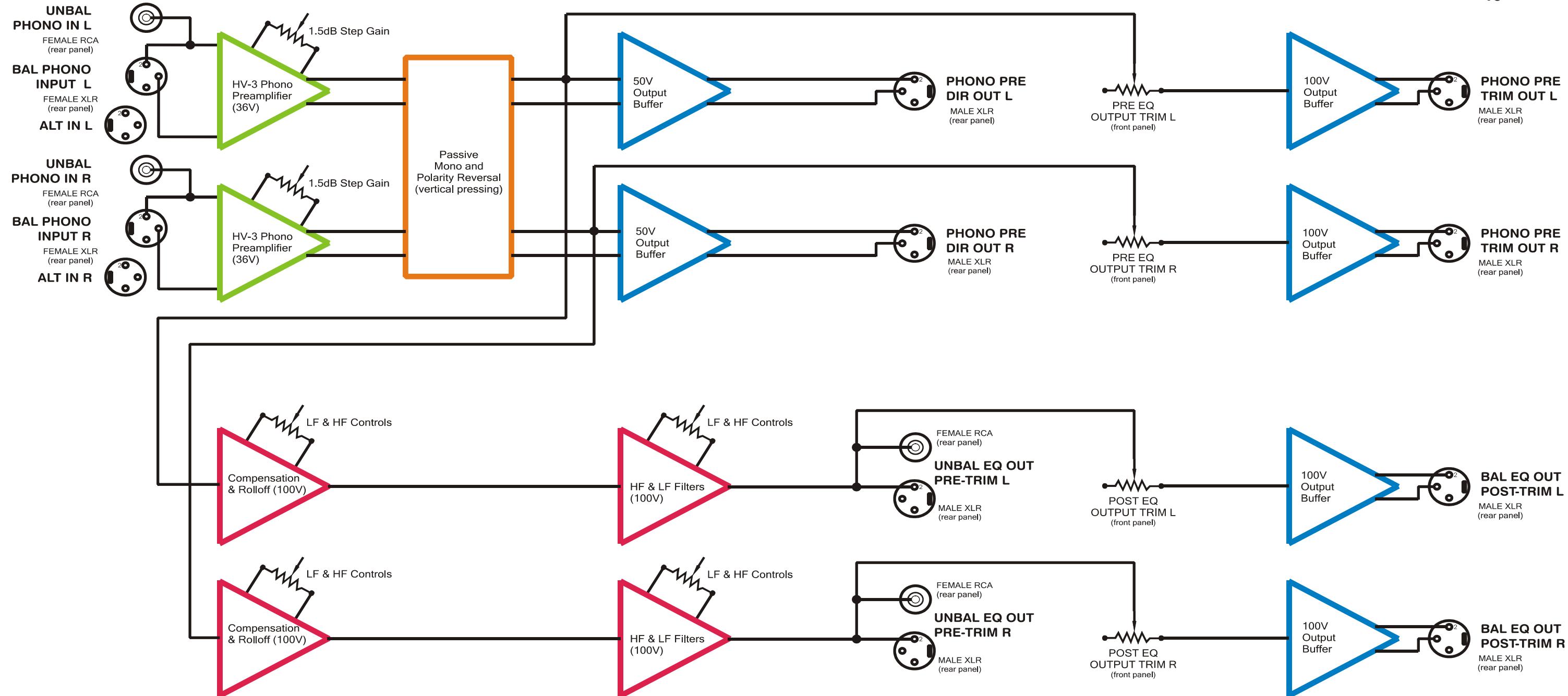
LOC

| SOURCE | SERIES | TURNOVER (Hz) | ROLLOFF (dB @ 10 kHz) |
|------------------|--|---------------|-----------------------|
| Technicord | | 800 | -12 |
| Telefunken | | 400 | 0 |
| Transcriptions | various, typical | 500 | -16 |
| Ultraphone | | 400 | 0 |
| Urania | most | COL* or 750 | -16 |
| Urania | newer | 400 | -12 |
| Vanguard | 411-22, 6000-18, 7001-7011, 8000-8004 | COL* or 750 | -16 |
| Velvet Tone | acoustics to 8/29 | 300 | -16 |
| Vitaphone | | 950 | -18.5 |
| Vitaphone | motion picture | 300 | 0 |
| Vocalion | electricals | 300 | 0 |
| VOX | | 500 or 750 | -16 |
| War Department | 12" Special Services | 700 | -5 |
| Western Electric | early transcriptions | 300 | 0 |
| Westminster | pre-1956 | 500 or 750 | -16 |
| Westminster | "AES" printed on jacket | 400 | -12 |
| Westrex | | 200 | 0 |
| Zonophone | early 71.29 RPM | 0 | 0 |
| | most | 300 | 0 |

Per NAB standards, the nominal speed of a 78 RPM record is precisely 78.26 RPM +/- 0.5%.

*COL — Some recordings were compensated with a rolloff of -16 dB @ 10 kHz and a modified 500 Hz turnover that requires an additional VLF boost using a 100 Hz shelving filter @ +3.0 dB. Often referred to as a "Columbia curve," some sources list this at 300 Hz turnover with similar HF and VLF characteristics. Better advice: trust your ears.

LOC



NOTES:

1. Filters are internally removed from circuit when disengaged

Millennia Media LPE-LOC v1.0b BLOCK DIAGRAM

INTERNAL DC POWER

| | |
|------|------|
| +50V | +18V |
| -50V | -18V |
| +25V | + 5V |
| -25V | |

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26 May 07

PREAMP & SYSTEM SPECIFICATIONS

| | |
|---------------------------------|--|
| THD + Noise, 20 Hz - 30 kHz | Less than <.01% typical, RIAA in, filters out |
| Frequency Response -3 dB points | 3 Hz to 200 kHz, typical, flat |
| Frequency Response, +/- 0.5 dB | 10 Hz to 100 kHz typical, flat |
| Maximum Input Level | +23 dBu |
| Maximum Output Level | +26 dBu |
| Maximum System Gain | 60 dB Nominal. Higher on request. (Preamp + EQ) |
| Input Impedance | User selectable (resistor/capacitor) Factory Stock: 47.5k ohms & 270 pF |
| Output Impedance | 49.9 ohms, unbalanced |
| Noise | Better than -125 dB EIN, flat |
| Three-pin XLR Polarity | Better than -98 dB EIN, RIAA in Pin 2 = positive polarity, Pin 1 = ground |

EQUALIZER SPECIFICATIONS

| | |
|---------------------------------------|---|
| Maximum Filter Boost & Cut | +/- 10 dB (21 step detent) |
| Notch Filter "Q" (Quality Factor) | Q = 1.0 |
| Low Frequency Comp Points | 200, 250, 300, 400, 500/RIAA, 700/USER |
| High Frequency Comp Points (@ 10 kHz) | -5.0, -7.0, -9.5, -11.5, -13.7/RIAA, -16.0/USER |
| Low Filter Fixed Frequencies | 20, 35, 60, 100, 180, 260 Hz |
| High Filter Fixed Frequencies | 1.0, 2.0, 3.0, 5.0, 8.0, 12.0 kHz |
| Peak/Shelf Selection on all Filters? | Yes |
| Bypass Selection on all Bands? | Yes |
| v | |

ELECTRO-MECHANICAL

| | |
|--------------------|---|
| Power Consumption | 50 Watts, nominal |
| Power Requirements | 100VAC to 240VAC, 50/60Hz, selectable |
| Fuses (2 required) | 2 ea 1A with 100-120VAC mains (5x20mm, slow-blow, 250V) |
| | 2 ea 500mA with 200-240V mains (5x20mm, slow-blow, 250V) |
| Dimensions | 19" W x 15.0" D x 3.5" H |
| Net Weight | approximately 26 pounds |

Millennia Media reserves the right to change specifications, delivery, and pricing without notice.

WARRANTY

Millennia Media will repair this product, free of charge, in the USA, in the event of defect of materials or workmanship for one (1) year following date of purchase. This warranty is extended only to the original LOC purchaser. This limited warranty covers failures due only to defects in materials and workmanship which occur during normal, intended use and does not cover damage which occurs in shipment or failures which are caused by products not supplied by Millennia Media. This limited warranty does not cover failures which arise from accident, misuse, abuse, neglect, mishandling, misapplication, faulty installation, improper adjustment, alteration or modification of product, incompatibilities, line-power surges, acts of God, or service performed by anyone other than Millennia Media or its authorized agent.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. Millennia Media shall not be liable for special, subsequent, incidental, consequential, or punitive damages, including, but not limited to: damage to recordings, archives, broadcasts, mixing consoles, or any associated equipment, downtime costs, loss of goodwill, or claims of any party dealing with purchaser for such damages resulting from the use of this product. All warranties, express and implied, including the warranties of merchantability and fitness for a particular purpose are limited to the applicable warranty period set forth above.

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MILLENNIA MUSIC & MEDIA SYSTEMS

Millennia Media, Inc.

4200-B Day Spring Court

Placerville, CA 95667-9500

T 530-647-0750 F 530-647-9921

info@mil-media.com <http://www.mil-media.com>

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